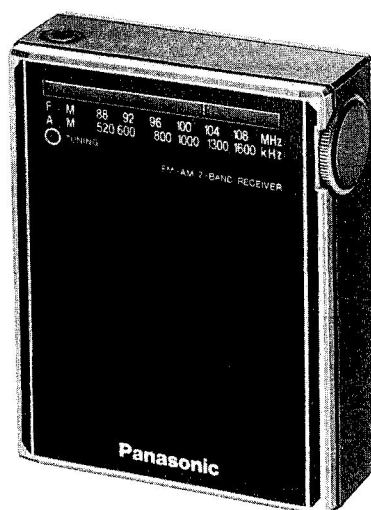


Service Manual

Radio
RF-7D

Ultra-Compact FM/AM Radio



■ SPECIFICATIONS

Frequency Range:	FM 87.5~108 MHz AM 520~1610 kHz (577~186 m)	Power Output:	240 mW (RMS Max)
Intermediate Frequency:	FM 10.7 MHz AM 455 kHz	Speaker:	4 cm (1½") PM Dynamic Speaker
Sensitivity:	FM 6.3μV for 50 mW Output AM 126μV/m for 50 mW Output	Dimensions:	53.5 (Wide)×65.8 (High)×20.7 (Deep) mm (2¼"×2½"×¾")
Battery:	3 V (Two "AAA" size Penlight Batteries) (National UM-4 or equivalent)	Weight:	80 g (2.82 oz) with batteries
		Impedance:	Speaker 6Ω Earphone Jack 32Ω

Specifications are subject to change without notice.

Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

DISASSEMBLY INSTRUCTIONS



Fig. 1

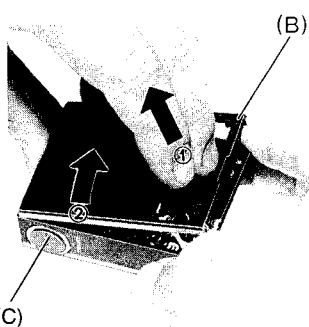


Fig. 2

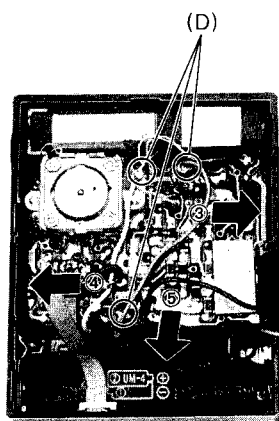


Fig. 3

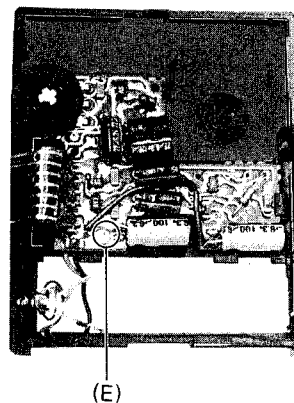


Fig. 4

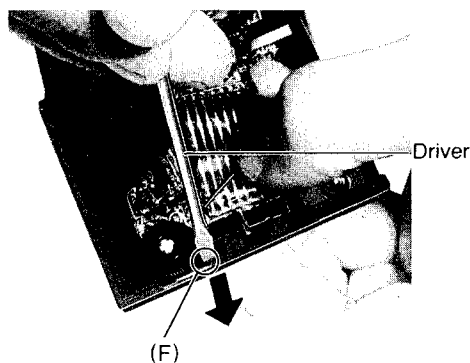


Fig. 5

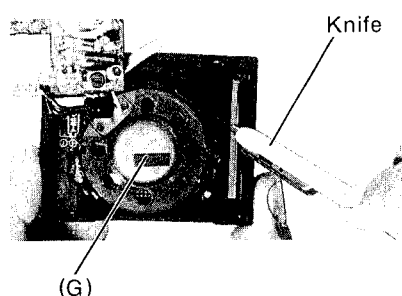


Fig. 6

Procedure	To remove—.	Remove	Shown in Fig.—.
1	Rear cabinet ass'y.	Battery cover (A)×1	1
2		Remove the rear cabinet ass'y in the direction of arrow ① and ② (B)×1	2
3	Circuit board.	Knob (C)×1	2
4		Unsolder (D)×3	3
5		Push the front cabinet ass'y in the direction of arrow ③, ④ and Remove the catch.	3
6		Remove the circuit board in the direction of arrow ⑤.	3
7	AF circuit board.	Screw (2×2) (E)×1	4
8		Remove the catch in the direction of arrow (F)×1 then remove the AF circuit board.	5
9	Speaker.	Remove the adhesion as shown in fig. 6. (G)×1	6

MEASUREMENTS AND ADJUSTMENTS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Notes:

1. Set volume control to maximum.
2. Set band selector switch to AM or FM.
3. Set power switch to ON.
4. Set power source voltage to 3 volts DC.
5. Output of signal generator should be no higher than necessary to obtain an output reading.

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING (DISTANCE)	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS	
CONNECTIONS	FREQUENCY					
AM-IF ALIGNMENT						
(1)	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455 kHz 30% Mod. with 400 Hz.	Point of non-interference. (on/about 600 kHz)	Output meter across voice coil.	T2 (IFT)	Adjust for maximum output.
AM-RF ALIGNMENT						
(2)	"	511 kHz	Tuning capacitor fully closed.	"	L6 (OSC Coil)	"
(3)	"	1650 kHz	Tuning capacitor fully open.	"	CT4 (OSC Trimmer)	"
(4)	"	550 kHz	Tune to signal.	"	(* 1) L5 (ANT Coil)	Adjust for maximum output. Adjust L5 by moving coil bobbin along ferrite core.
(5)	"	1500 kHz	Tune to signal.	"	CT3 (ANT Trimmer)	Adjust for maximum output. Repeat steps (2)~(5).
(* 1) Cement antenna bobbin with wax after completing alignment.						
FM-IF ALIGNMENT						
(6)	High side thru. 0.001 μ F to point ∇ . Negative side to point ∇ .	10.7 MHz (SWP.)	Point of non-interference. (on/about 90 MHz).	Connect vert. amp. of scope to point ∇ . Negative side to point ∇ .	T1 (FM 1st IFT)	Adjust for maximum amplitude. (Refer to fig. 7).
(7)	"	"	"	"	T3 (FM 2nd IFT)	Adjust for maximum amplitude. (Refer to fig. 8).
FM-RF ALIGNMENT						
(8)	Connect point ∇ through FM dummy antenna Negative side to point ∇ .	87.5 MHz	Tuning capacitor fully closed.	Output meter across voice coil.	L4 (OSC Coil)	(* .2) Adjust for maximum output.
(9)	"	108 MHz	Tuning capacitor fully open.	"	CT2 (OSC Trimmer)	"
(10)	"	90 MHz	Tune to signal.	"	L3 (ANT Coil)	"
(11)	"	106 MHz	Tune to signal.	"	CT1 (ANT Trimmer)	(* 2) Adjust for maximum output. Repeat steps (8)~(11).
(12)	"	108 MHz	Tuning Capacitor fully open	"	CT5 (OSC Trimmer)	Adjust for maximum output before assembling the front cabinet.
(* 2) Three output responses will be present; proper tuning is the center frequency.						

ALIGNMENT POINTS

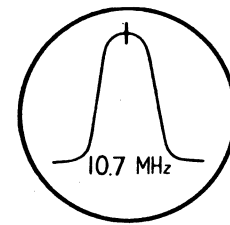


Fig. 7

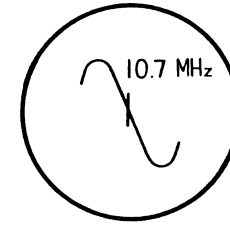


Fig. 8

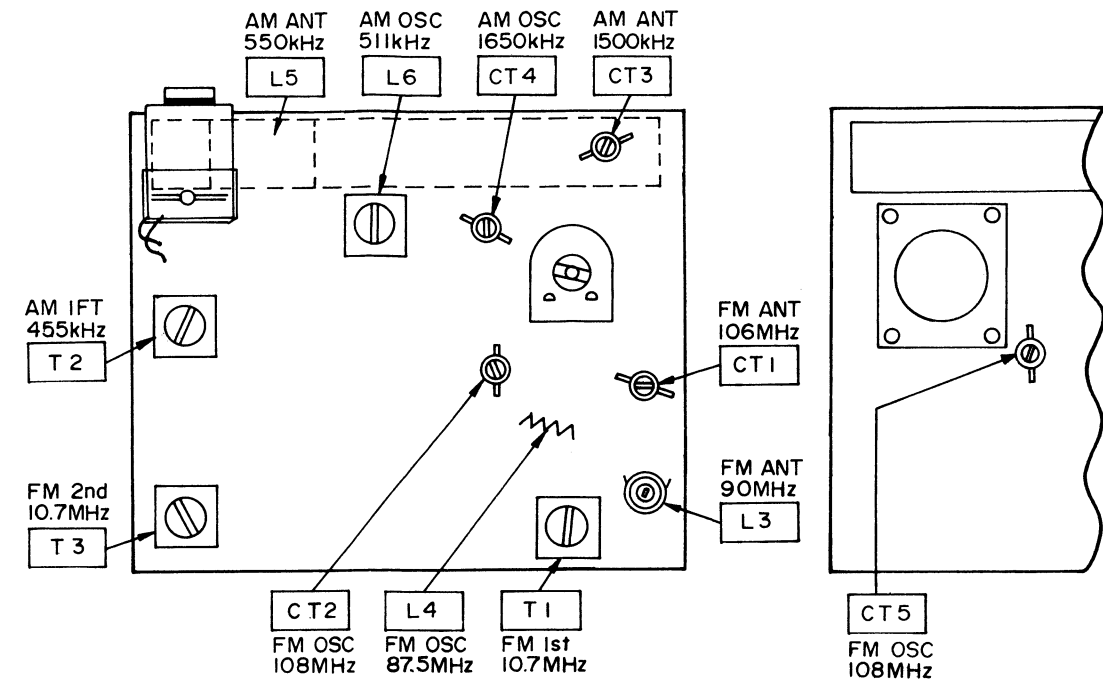


Fig. 9

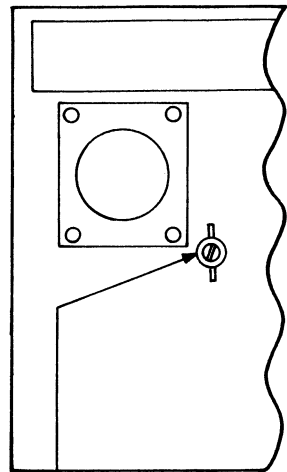


Fig. 10

CABINET PARTS LOCATION

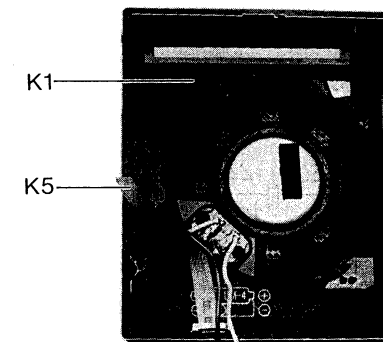


Fig. 11

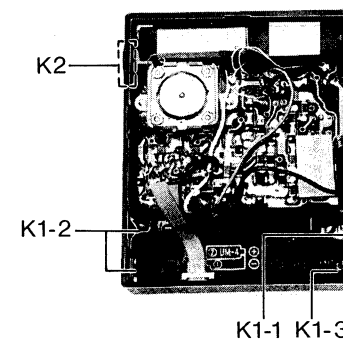


Fig. 12

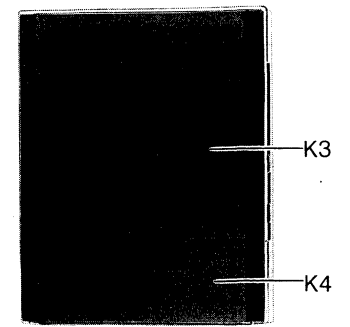


Fig. 13

ELECTRICAL PARTS LOCATION

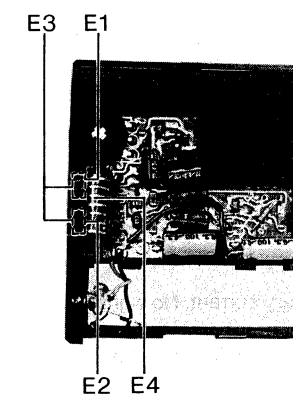


Fig. 14

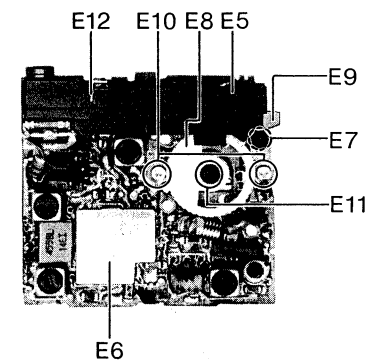
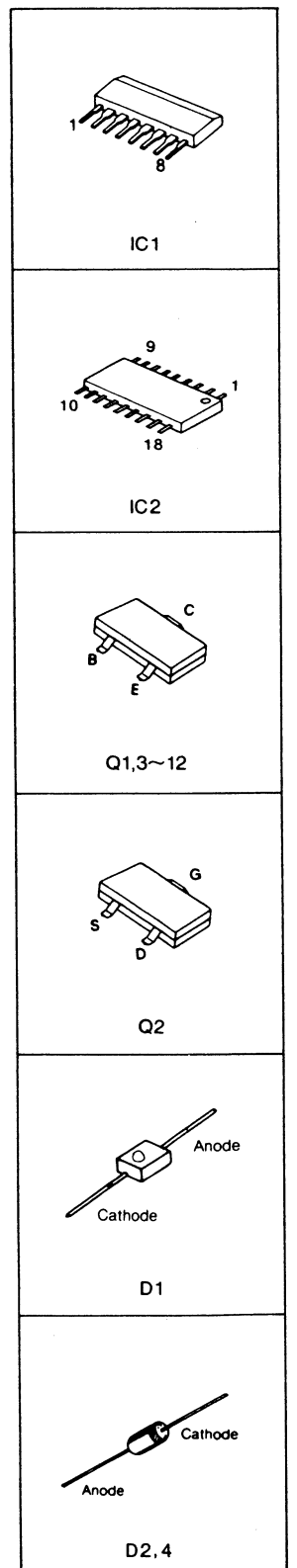
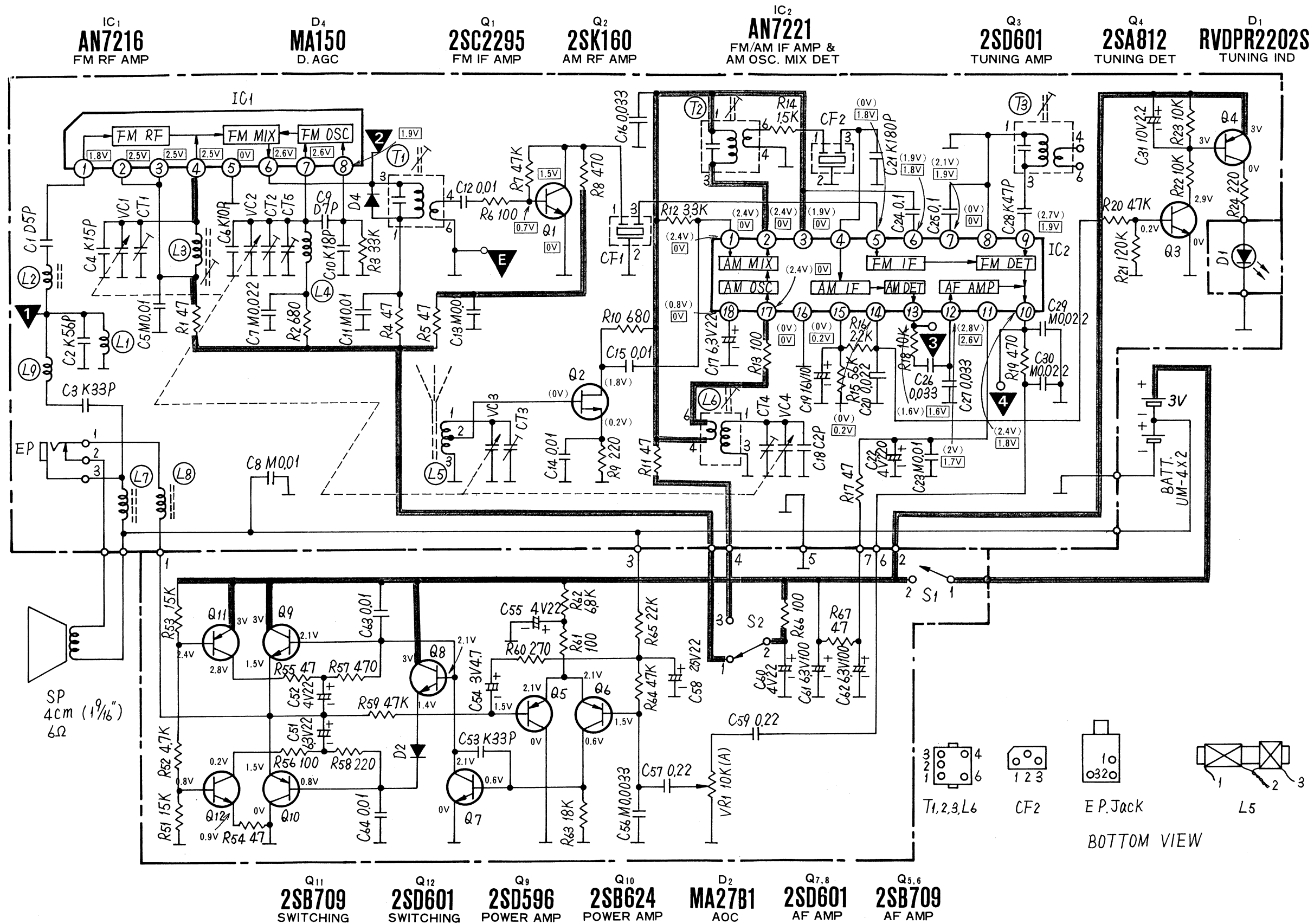
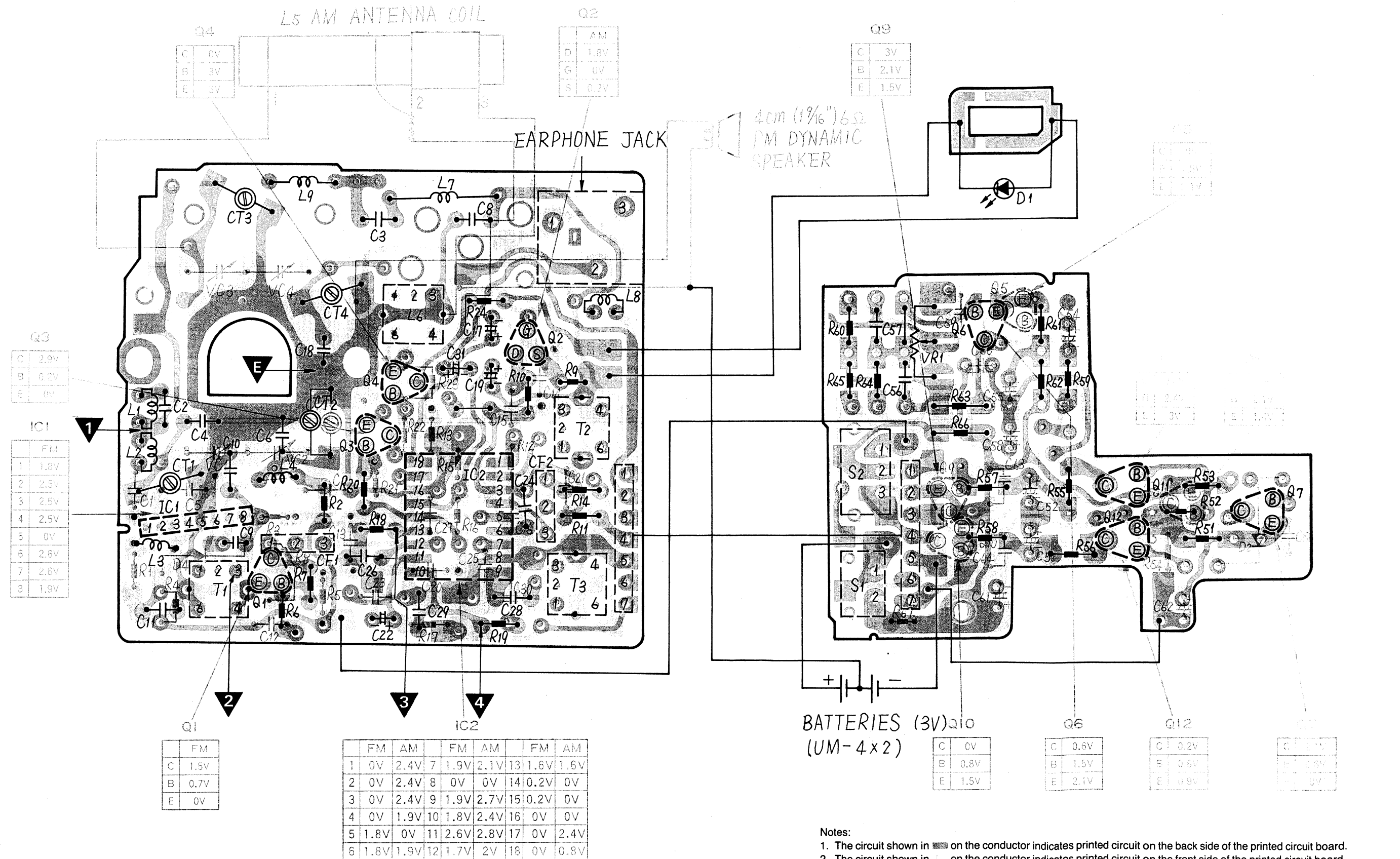


Fig. 15

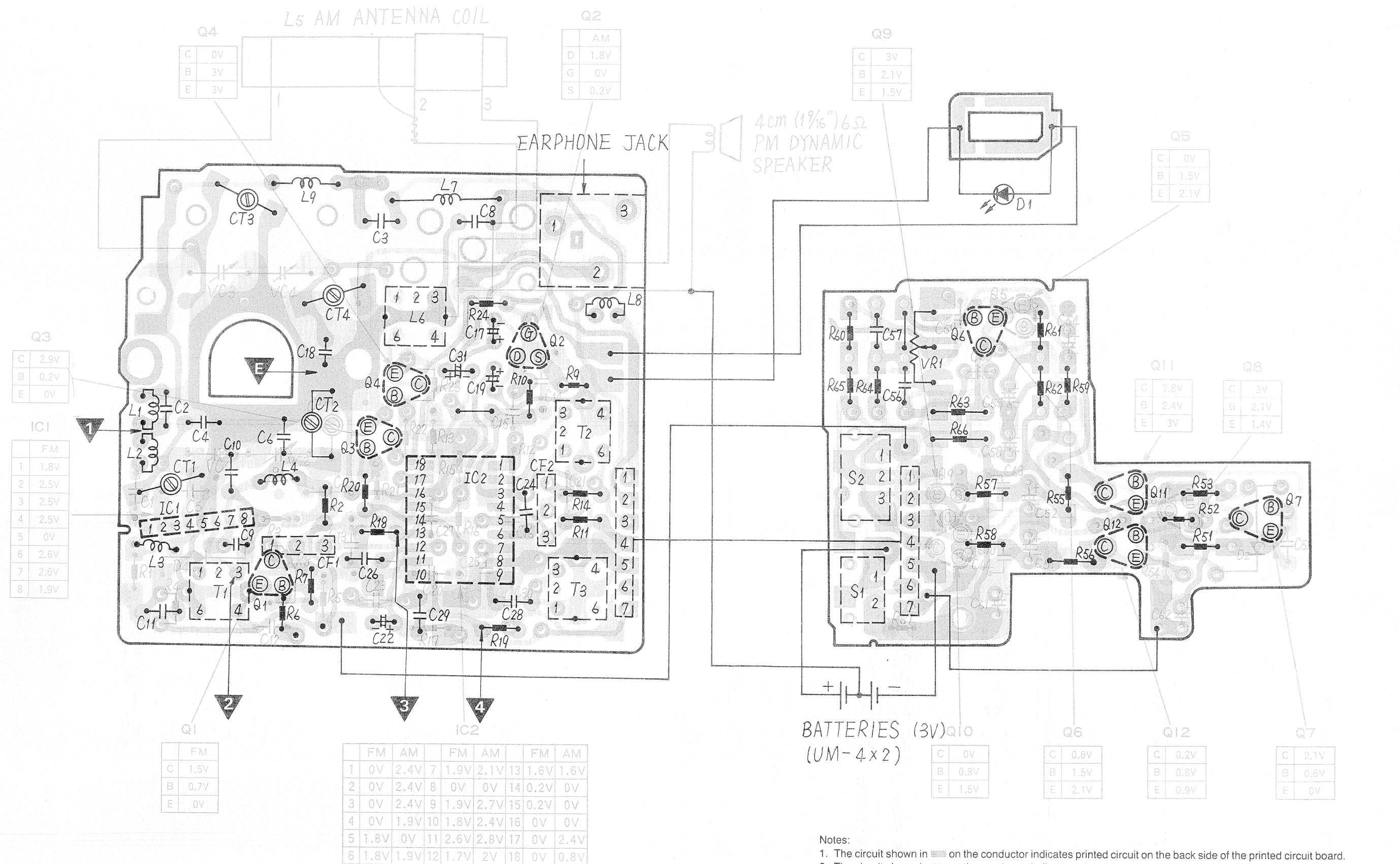
SCHEMATIC DIAGRAM MODEL RF-7D





CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM MODEL RF-7D



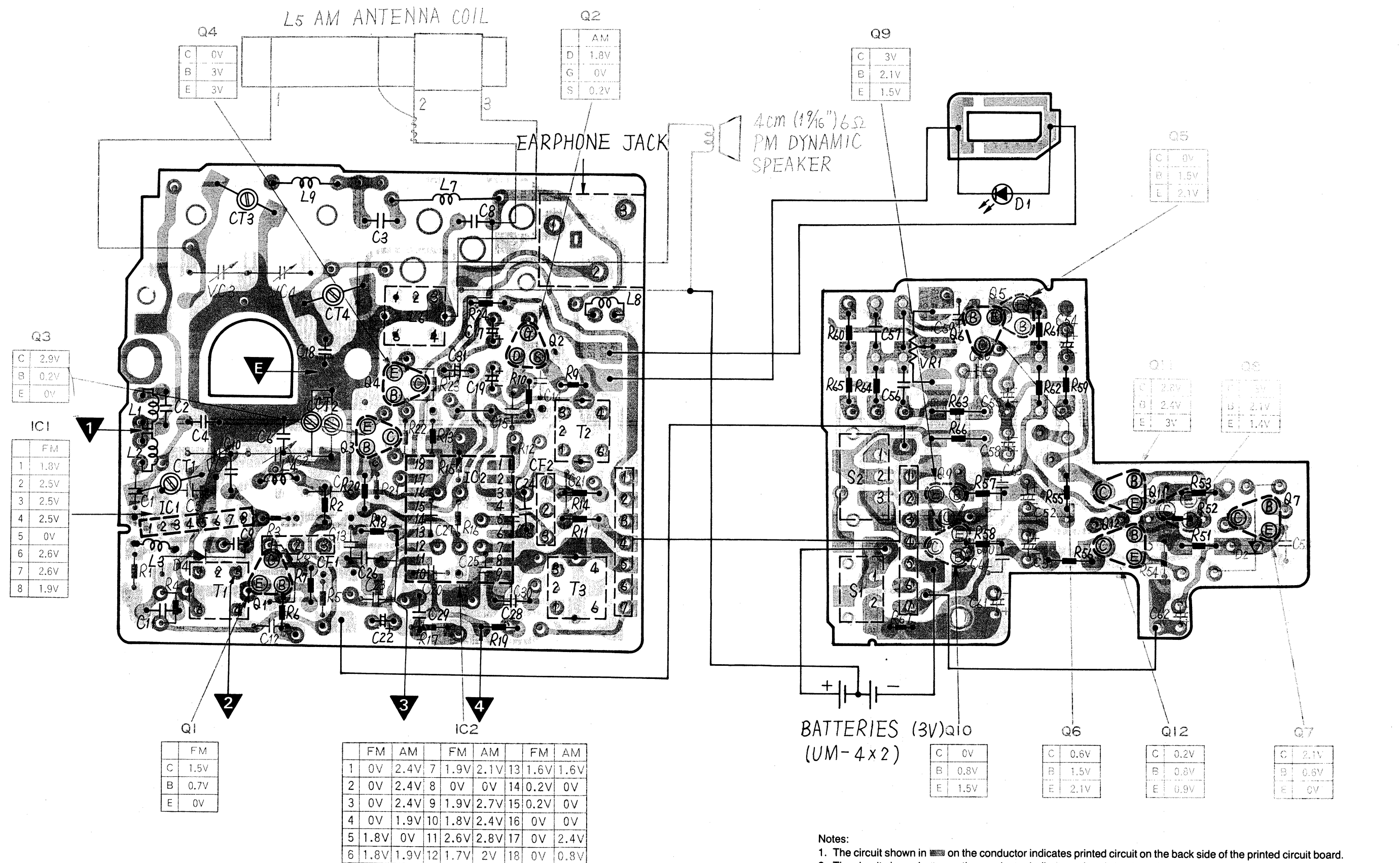
CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM MODEL RF-7D



Notes:

1. The circuit shown in  on the conductor indicates printed circuit on the back side of the printed circuit board.
2. The circuit shown in  on the conductor indicates printed circuit on the front side of the printed circuit board.
3. Components on back of P.B are identified by black symbols.
4. Components on front of P.B are identified by blue symbols.
5. The symbols (•) shown in the circuit board indicate connection points between conductors on the front side and back side of the circuit board.

CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM MODEL RF-7D



REPLACEMENT PARTS LIST..... Model RF-7D (RD83022063C2)

NOTES: 1. Important safety notice. Components identified by A mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts. 2.The S mark indicates service standard parts and may differ from production parts.

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
IC1	AN7216	INTEGRATED CIRCUITS, TRANSISTORS AND DIODES	1	
IC2	AN7221		1	
Q1	2SC2295B		1	
Q2	2SK160K5		1	
Q3	2SD601Q		1	
Q4	2SA812M5		1	
Q5	2SB709S		1	
Q6	2SB709S		1	S
Q7	2SD601S		1	S
Q8	2SD601Q		1	S
Q9	2SD596DV3		1	S
Q10	2SB624BV3		1	
Q11	2SB709R		1	
Q12	2SD601S		1	S
D1	RVDPR2202S		1	
D2	MA27B1		1	S
D4	MA161		1	S
L2	RLQZJR47M	COILS AND TRANSFORMERS	1	
L3	RLQ4N125		1	
L4	RLQ4N162		1	
L5	RLF2Y15		1	
L6	RLQ2A3		1	
L7	RLQZA100K		1	
L8	RLQZ22G3		1	
T1	RLI4A19		1	
T2	RLI2A15		1	
T3	RLI4A19		1	
VR1	EVLAPAA02A14	VARIABLE RESISTOR Variable Resistor, 10kΩ (A)	1	
VC1~4	ROVALC3FINZS	VARIABLE CAPACITORS Tuning Capacitor Trimmer Capacitor	1	
CT1~5	RGVTSW3H		5	
CF1	RVF107NAZ	CERAMIC FILTERS Ceramic Filter Ceramic Filter	1	
CF2	RVFCFMS455B		1	
	EAS4P102SK	SPEAKER Speaker, 4cm (1-1/2"), 6Ω	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
C5	ECUX1H103MD	0.01 50V Chip	1	
C6	ECUX1H100KC	10 P "	1	
C7	ECUX1H223MD	0.022 "	1	
C8	ECUX1H103MD	0.01 "	1	
C9	ECUX1H070DC	7 P "	1	
C10	ECUX1H180KC	18 P "	1	
C11	ECUX1H103MD	0.01 "	1	
C12	ECUX1H103ZF	0.01 "	1	
C13	ECUX1H103MD	0.01 "	1	
C14	ECUX1H103ZF	0.01 "	1	
C15	ECUX1H103ZF	0.01 "	1	
C16	ECUX1H333ZF	0.033 "	1	
C17	ECEA1ES220	22 25V Electrolytic	1	S
C18	ECUX1H020CC	2 P 50V Chip	1	S
C19	ECEA1HS100	10 50V Chip	1	S
C20	ECUX1H223ZF	0.022 "	1	
C21	ECUX1H181KD	180 P "	1	
C22	ECEAOGK221	220 4V Electrolytic	1	
C23	ECUX1H103MD	0.01 50V Chip	1	
C24	ECUX1H104MD	0.1 "	1	
C25	ECUX1H104MD	0.1 "	1	
C26	ECUX1H333ZF	0.033 "	1	
C27	ECUX1H333ZF	0.033 "	1	
C28	ECUX1H470KC	47 P "	1	
C29	ECUX1H223MD	0.022 "	1	
C30	ECUX1H223MD	0.022 "	1	
C31	ECSF1AM225	2.2 10V Electrolytic	1	
C31	ECEA1ES220	22 25V "	1	S
C31	ECGFOGE226	22 4V "	1	S
C32	ECUX1H330KC	33 P 50V Chip	1	
C33	ECGFOGE226	22 4V "	1	
C34	ECSF0FM475	4.7 6.3V Electrolytic	1	S
C35	ECGFOGE226	22 4V "	1	
C35	ECUX1H332MD	0.0033 50V Chip	1	
C36	ECUX1E224ZF	0.22 25V "	1	
C37	ECEA1ES220	22 50V Chip	1	S
C38	ECGFOJE226	22 4V Electrolytic	1	S
C39	ECEA1AS101	100 10V "	1	S
C40	ECUX1H103ZF	0.01 50V Chip	1	S
C41	ECUX1H103ZF	0.01 "	1	
C42	ECUX1H103ZF	0.01 "	1	
C43	ECUX1H103ZF	0.01 "	1	
C44	ECUX1H103ZF	0.01 "	1	
C45	ECUX1H103ZF	0.01 "	1	
C46	ECUX1H103ZF	0.01 "	1	
C47	ECUX1H103ZF	0.01 "	1	
C48	ECUX1H103ZF	0.01 "	1	
C49	ECUX1H103ZF	0.01 "	1	
C50	ECUX1H103ZF	0.01 "	1	
C51	ECUX1H103ZF	0.01 "	1	
C52	ECUX1H103ZF	0.01 "	1	
C53	ECUX1H103ZF	0.01 "	1	
C54	ECUX1H103ZF	0.01 "	1	
C55	ECUX1H103ZF	0.01 "	1	
C56	ECUX1H103ZF	0.01 "	1	
C57	ECUX1H103ZF	0.01 "	1	
C58	ECUX1H103ZF	0.01 "	1	
C59	ECUX1H103ZF	0.01 "	1	
C60	ECUX1H103ZF	0.01 "	1	
C61	ECUX1H103ZF	0.01 "	1	
C62	ECUX1H103ZF	0.01 "	1	
C63	ECUX1H103ZF	0.01 "	1	
C64	ECUX1H103ZF	0.01 "	1	
K1	RYMF7DXGZ	CABINET PARTS Front Cabinet Ass'y Terminal, Battery + Side Terminal, Battery - Side Spring, Battery - Side Tuning, Knob Ass'y Cabinet Cover Battery Cover Ribbon	1	
K1-1	RJC944Z		1	
K1-2	RJC945Z		1	
K1-3	RJC947Z		1	
K2	RYTF7DXGZ		1	
K3	RKF609V		1	
K4	RKK231Z		1	
K5	RHS27Z		1	
E1	RUV640Y	ELECTRICAL PARTS Cover, Switch	1	